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EXAMINER

FIGUEROA, FELIX O

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/587,948
Filing Date: June 06, 2000
Appellant(s): POLLACK, GEORGE P.

MAILED

JUL 25 2005

GROUP 2800

Barry W. Sufrin
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 4, 2005 appealing from the Office action mailed December 10, 2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct. Claims 4 and 14 have been canceled.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

US 2,982,938	Klumpp, Jr.	May 2, 1961
US 6,045,408 A	Takemasa	Apr. 4, 2000
US 2,229,288	Gilbert	Jan. 21, 1941
JP 09-213436 A	Ozaki	Aug. 15, 1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klumpp, Jr. (US 2,982,938) in view of Takemasa (US 6,045,408).

Klumpp discloses an electrical terminal, comprising: (a) a crimp flange (21) having a pair of upwardly directed opposite side portions (22-24) and a bottom portion extending between and interconnecting the side portions; (b) at least one insulation piercing knife (26,27) integral with the crimp flange projecting from the bottom portion into the space between the side portions; and (c) a blade (20) extending from the crimp flange for insertion into an electrical socket. Klumpp discloses substantially the claimed invention except for the pre-formed channel and the barbs. Takemasa teaches the use of a plug housing (20) having a preformed channel (28) and an electrical terminal (50) having a blade (51), and a web portion (at 53) including a plurality of lance-formed barbs along the web portion for abutting against a wall of the preformed channel. This arrangement affords an easy assembly (col.4 lines30-32) and ensures correct contact alignment. Therefore, it would have been obvious to a person of ordinary skill in the art

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at the time the invention was made to form the electrical terminal of Klumpp having a web portion with a plurality of barbs for abutting against a wall of a pre-formed channel, as taught by Takemasa, to provide easy assembly and ensure correct contact alignment.

Regarding claim 2, Klumpp discloses the at least one insulation piercing knife being a pair of insulation piercing knives (26,27) cut out and bent upwardly from the bottom portion of the crimp flange.

Regarding claim 3, Klumpp discloses the insulation piercing knives being disposed substantially in a tandem alignment with one another.

Regarding claim 21, Klumpp discloses the bottom portion being concave shaped.

Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert (US 2,229,288) in view of Klumpp, Jr.

Gilbert discloses an electrical plug assembly, comprising: a plug housing (1) having opposite front and rear ends and defining a pair of spaced apart pre-formed channels (14) therethrough open at each of the opposite ends thereof; a pair of insulated conductors (col.2 lines 43-44) each having an end and an electrical wire and a layer of insulation covering the wire and being disposed at least partially within one of the channels of the plug housing; and a pair of electrical terminals (2,3) each being insertable into one of the channels of the plug housing at the front end of the plug housing, each terminal including: a blade extending from a cable-connecting portion for insertion into an external electrical socket for making an electrical connection. Gilbert discloses substantially the claimed invention except for the specific structure of the

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cable-connection portion. Klumpp teaches an electrical connector comprising: a plug housing (10); a pair of insulated conductors (13,14) each having an end and an electrical wire and a layer of insulation covering the wire; and (c) a pair of electrical terminals (11,12), each terminal including a crimp flange (21) having a pair (22-24) of upwardly directed opposite side portions and a concave actuate-shaped bottom portion extending between and interconnecting the side portions; at least one insulation piercing knife (26,27) integral with the crimp flange projecting upwardly from the bottom portion into the space between the side portions; and a blade (20) extending from the crimp flange for insertion into an external electrical socket for making an electrical connection. The structure of Klumpp provides an efficient and strong electrical and mechanical connection between the terminals and the cables. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the terminal with a cable connecting portion, as taught by Klumpp, to provide an efficient and strong connection.

Regarding claims 6 and 7, Gilbert discloses the housing and the terminals being of a one-piece construction.

Regarding claim 8, Klumpp discloses each of the electrical terminals having opposite ends; and the crimp flange of each the electrical terminal is disposed at a rearward position on the electrical terminal adjacent to one of the opposite ends.

Regarding claim 9, both Klumpp and Gilbert disclose the blade being disposed at a forward position on the electrical terminal opposite from the crimp flange and adjacent

to the other end of the opposite ends of the electrical terminal and extending therefrom toward but spaced from the one opposite end of the electrical terminal.

Regarding claim 10, Klumpp discloses the at least one insulation piercing knife of the electrical terminal being a pair of insulation piercing knives (26,27) cut out and bent upwardly from the bottom portion of the crimp flange of the electrical terminal and disposed between the side portions of the crimp flange of the electrical terminal.

Regarding claim 11, Klumpp discloses the insulation piercing knives being disposed substantially in a tandem alignment with one another.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert and Klumpp, and further in view of Takemasa.

Regarding claim 12, Gilbert, as modified by Klumpp, discloses substantially the claimed invention except for the undulating barbs. Takemasa teaches the blades (51) including a web portion (53) a plurality of undulating barbs (64) to securely fasten the electrical terminal to the housing. The use of barbs increases friction and so provides a stronger retention force for the terminal in the housing. Therefore, it would have been obvious to one of ordinary skill in the art would the time the invention was made to provide the terminals of Gilbert with barbs in order to increase friction and more securely retain the electrical terminal to the housing.

Claims 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert in view of Klumpp, Jr.

The structure shown by Gilbert inherently discloses the method claimed: a) providing a plug housing and a plurality of electrical terminals; b) passing a pair of

insulated conductors through channels of the plug housing; c) aligning ends of the terminals with the portions of the wires that extend from the plug housing; d) crimping the electrical terminal on the ends of the conductors; and e) securing the terminals on the channels of the housing. Gilbert discloses substantially the claimed invention except for the specific crimping structure of the terminal. Klumpp discloses an electrical terminal, comprising: (a) a crimp flange (21) having a pair of upwardly directed opposite side portions (22-24) and a bottom portion extending between and interconnecting the side portions; (b) at least one insulation piercing knife (26,27) integral with the crimp flange projecting from the bottom portion into the space between the side portions to provide a stronger and more stable mechanical interface between the terminals and the conductors. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the interface between the conductors and the terminals of Gilbert with a crimp structure, as taught by Klumpp, to provide a stronger and more stable mechanical interface between the terminals and the conductors.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert and Klumpp, Jr. in view of Takemasa.

Gilbert discloses substantially the claimed invention except for the undulation on the web portion. Takemasa teaches the use of undulations on a web portion to help retain the terminal within a housing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include undulations on the web portion of Gilbert, as taught by Takemasa, to better retain the terminal within the

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housing. However, Takemasa does not disclose undulations on opposite sides of the web portion. It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate undulations on opposite sides of the web portion, since it has been held that mere duplication of essential working parts involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert and Klumpp, Jr. in view of Ozaki (JP 09-213436).

Gilbert inherently discloses the method claimed except for the provision of a strip to align the terminals. Ozaki discloses the use of a strip to align the terminals. Therefore, it would have been obvious the use of a strip to hold and align the terminals to accelerate the manufacture of the assembly.

Regarding claims 18-20, the order between the crimping of the terminal and the remission of the strips would have been an obvious matter of preference to one of ordinary skill in the art, since the applicant has not disclosed that the order between the two steps provides any advantage or solves any stated problem.

(10) Response to Argument

In response to Applicant's arguments (regarding claims 1, in the first full paragraph of page 7) that Klumpp "is concerned with terminals for mounting in a plug housing molded around a pair of terminals, and not with terminals for mounting in pre-formed channels in a plug housing", please note that Klumpp does not disclose that the housing is molded around the terminals. On the contrary, Klumpp discloses that "the plug 10 has received within it a pair of blade terminals 11 and 12" (col.2 lines 49-50)

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suggesting that the terminals are inserted in the plug after it is already formed.

However, it is noted that even if the plug of Klumpp is molded, the barbs of Takemasa would still improve retention and alignment of the terminal within the housing.

In response to Applicant's arguments that Takemasa "describes electrical contacts for use in multiple contact circuit board-mounted electrical connectors, not in electrical plugs", please refer to Fig. 6, in which the connector 10 is plugged into socket 100.

In response to applicant's argument that Takemasa "there is no mention of a wire conductor or cable", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, Takemasa teaches the use of a plug housing (20) having a preformed channel (28) and an electrical terminal (50) having a blade (51), and a web portion (at 53) including a plurality of lance-formed barbs along the web portion for abutting against a wall of the preformed channel, thus providing an easy assembly (col.4 lines30-32) and ensures correct contact alignment.

In response to applicant's argument (starting in the last paragraph of page 7) that Klumpp and Takemasa "are concerned with completely different kinds of terminals and contacts used in completely different contexts from each other and from the invention of the present application", it has been held that a prior art reference must either be in the

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field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Klumpp and Takemasa both relate to electrical plug assemblies. Additionally, Takemasa is concerned with securing the terminals to the housing.

In response to Applicant's arguments that "the terminals of Klumpp, Jr. are designed for molded-in-place plugs and are structured in a way that would prevent them from being mounted in a pre-formed plug housing channel", it is again noted that Klumpp does not disclose that the housing is molded-in-place around the terminals.

In response to Applicant's arguments (regarding claim 5, in the first full paragraph of page 8) that in Gilbert the "channels 14 do not extend through the plug and are not open at each of the opposite ends thereof", it is noted that the channel need to extend from one side (top in Fig.3) to an opposite side (bottom in Fig.3) in order for the cables to pass from one side to the opposite side. Additionally, it is noted that the claim language only requires "a pair of spaced apart channels", which is broad enough to comprise a pair (of at least partly) spaced apart channels. It is noted that the claim language does not require the channels being spaced apart along their whole length.

In response to Applicant's arguments that Klumpp "is concerned with plug housings molded-in-place around fully-wired contacts and for this reason is believed not to be properly relied upon in the present context", it is again noted that Klumpp does not disclose that the housing is molded-in-place around the terminals. Additionally, one

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cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicant's arguments (regarding claims 12 and 17, in page 9) that "Takemasa's projecting members 69 relied upon by the Examiner are present on only one side of the Takemasa contacts and are not associated with a web portion of a terminal", please note that the rejection states that "It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate undulations on opposite sides of the web portion, since it has been held that mere duplication of essential working parts involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8."

Additionally, in response to Applicant's arguments that "the Takemasa contacts are not capable of entering g the plug channels from the front of the plug housing", please note that the use of barbs can be use with either rear or forward entry. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to Applicant's arguments (regarding claim 13, in page 10) that Klumpp "describes a housing in which the contacts are molded in place" and that it is

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"not properly relied upon in rejecting a method of making a plug assembly as set forth in claim 13, where the plug housing is formed contact-free and the contacts are subsequently inserted therein during the course of performing the claimed method", please note that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Gilbert discloses a method of making a plug assembly where the plug housing is formed contact-free and the contacts are subsequently inserted therein during the course of performing the claimed method.

Additionally, it is again noted that Klumpp does not disclose/limit that the housing is molded-in-place around the terminals.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,




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